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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/830,855	04/27/2001	Willem Hendrik Brits	JKERN14.001A	3572

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EXAMINER

CROSS, LATOYA I

ART UNIT	PAPER NUMBER
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1743

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DATE MAILED: 06/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

mic-5

**Office Action Summary**

Application No. 09/830,855		Applicant(s) BRITS, WILLEM HENDRIK	
Examiner LaToya I. Cross		Art Unit 1743	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 April 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All   b) ☐ Some \*   c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)          | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other:  |

## DETAILED ACTION

### *Abstract*

1. This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.

### *Specification*

Page 14, line 3 and page 7, line 13 of the specification are indecipherable.

At page 31, Applicants have misnumbered claim 25 as claim 5. The claim has been correctly numbered pursuant to 37 CFR 1.126.

### *Claim Rejections - 35 USC § 112*

2. Claims 1-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-15 are directed to a method for assaying an ore sample. The method steps recite, 1) combine ore sample with flux, 2) heat combination to form a fusion of slag and lead and 3) separate lead from slag. The method fails to set forth how these steps are used in assaying an ore sample to determine the concentration of metals therein. In other words, there is no correlation between the last step of the method and determining the concentration of the metals in a sample.

Claim 6 is indefinite because it attempts to redefine the container used in to hold the sample of ore and flux. Claim 5 states that the container is made of carbon based materials. Claim 6, which is dependent on claim 5, improperly redefines the container as being made of

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plastic material. It is suggested that claim 6 be amended to be dependent on either of claims 1-4.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-4, 9-12 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 5,238,485 to Shubert.

Shubert teaches a method for the assay and recovery of precious metals. Shubert gives a detailed description of fire assays used to analyze ore samples. The fire assay is a two step process – fusion and cupellation. In the fusion step, an ore sample is pulverized and mixed with litharge. Litharge is lead oxide used as a readily fusible flux that alloys with precious metals. Next the lead flux and ore sample are heated together to a slag formation temperature for a period of time long enough to decompose the ore particles and allow globules of lead to alloy with the precious metals. At col. 6, line 66 – col. 7, line 4, Shubert teaches using induction heating to avoid producing large gas volumes which have to be cleaned later. The heating produces a fusion of slag and lead, as recited in claim 4. After fusion, the slag and lead are allowed to cool to form a lead button, as recited in claim 12. The lead button is separated from slag and subjected to the cupellation process to separate the precious metals from the lead. See col. 1, lines 34-43, lines 59-61 and col. 5, lines 8-18. With respect to claims 2 and 3, Shubert teaches that the temperature of the mixture of lead flux and ore sample is determined according to the flux composition used (col. 1, line 59 – col. 2, line 8). With respect to claim 9, Shubert

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teaches that sodium hydroxide may be used as a flux (col. 1, lines 49-52). With respect to claims 10 and 11, Shubert teaches using crucibles able to withstand the high heating temperatures such as graphite and zirconium (col. 6, lines 64-65).

Therefore, for the reasons set forth above, Applicants' claimed invention is deemed to be anticipated, within the meaning of 35 USC 102(b) in view of the teachings of Shubert.

5. Claims 16-23 are rejected under 35 U.S.C. 102(b) as being anticipated by GB 2,289,758 to Hiraoka et al.

Hiraoka et al teach a sampling vessel for thermal analysis. The vessel comprises a base and a separation wall (14, 20) extending from the base. The separation walls create cavities (16, 24) which collect molten metals, such as molten iron or steel, as recited in claim 16. See figures 1 and 2. The cavities open at the top of the vessel, as recited in claim 17. A groove (26) is designed to guide the flow such that molten metal travels only to the opening of the vessel, as recited in claim 18. With respect to claims 20 and 21, the openings of cavities 16 and 24 serve as a first and second spout. Hiraoka et al teach that the vessel is made of thermal resistant material, such as graphite, so it is suitable to be used as a melting pot for a furnace, as recited in claims 22 and 23 (page 3, lines 12-15).

Therefore, for the reasons set forth above, Applicants' claimed invention is deemed to be anticipated, within the meaning of 35 USC 102(b) in view of the teachings of Hiraoka et al.

6. Claims 24 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 4,029,302 to Winterhager et al.

Winterhager et al teach a device and method for separating mixtures of molten metals.

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At col. 4, beginning at line 30, Winterhager et al teach separation of lead containing slag. A centrifugal drum equipped with heating means is used as the receptacle for separating the slag and lead. The drum is heated to the operating temperature and set into rotary motion. The charge of slag and lead is introduced into the interior of the rotation drum. As the drum rotates, the molten material is deflected in a radial direction toward the drum side wall and collides with the bath on the side of the drum wall. A partial quantity of bath (containing slag and lead) is continuously withdrawn. The lead globules dispersed in the slag further toward the side wall due to their higher density. The lead globules begin to accumulate in a region behind the inlet end (equivalent to Applicants' cavity), causing a complete separation of slag and lead. See col. 4, line 30 – col. 5, line 3.

Therefore, for the reasons set forth above, Applicants' claimed invention is deemed to be anticipated, within the meaning of 35 USC 102(b) in view of the teachings of Winterhager et al.

7. Claims 26-30 are rejected under 35 U.S.C. 102(b) as being anticipated by the abstract of KR 9105056 to Bang.

Bang teaches a flux composition comprising sodium hydroxide, nitrate salt, borax and lead oxide. The sodium hydroxide is present in an amount of about 43%. The borax is present in an amount of about 20% and the lead oxide is present in an amount of about 33%. These amounts fall within those recited in claims 27-29.

Therefore, for the reasons set forth above, Applicants' claimed invention is deemed to be anticipated, within the meaning of 35 USC 102(b) in view of the teachings of Bang.

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8. Claims 31-37 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 3,633,780 to Rausing.

Rausing teaches a container having a bottom portion (9) and a top portion (2). The top portion includes a lid (5) for sealing the container, as recited in claim 32. The container is made to be burned after use and is thus manufactured of combustible material, as recited in claim 33 (col. 2, lines 11-13). Rausing teaches that plastic material, such as polyvinyl chloride may be used to make the container, as recited in claim 34. With respect to claims 35 and 36, Rausing teaches that the plastic material may be mixed with calcium carbonate, a flux material (col. 2, lines 4-8, lines 48-52). The reference teaches that the plastic material composes 35-40% weight of the material used to make the container. Since only two materials are taught (plastic and calcium carbonate), calcium carbonate would inherently be used in an amount of up to 60% by weight as recited in claim 37.

Therefore, for the reasons set forth above, Applicants' claimed invention is deemed to be anticipated, within the meaning of 35 USC 102(b) in view of the teachings of Rausing.

9. Claims 1, 2, 5-7 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Australian Laboratory Services (ALS) – Minerals Division newsletter article entitled "Coarse Gold Problems" (hereinafter ALS).

ALS teaches a fire assay method for determining the concentration of fine metals in an ore sample. The fire assay flow sheet, in figure 5, of the reference teaches that an ore sample is mixed with a quantity of flux in a paper cup. A plastic lid is placed tightly over the cup and the contents are tumbled to mix, as recited in claims 5 and 6. The mixture is placed in a numbered melting pot (numbering is an identification means) in a fusion furnace at 1100°C and fused, as

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recited in claims 2 and 7. After fusion, the mixture is cooled to form a lead button and slag, as recited in claim 12. The lead button is then separated from the slag. The lead button is treated with a cupellation technique and the quantity of fine metal is measured.

Therefore, for the reasons set forth above, Applicants' claimed invention is deemed to be anticipated, within the meaning of 35 USC 103 in view of the teachings of ALS.

### *Claim Rejections - 35 USC § 103*

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. Claims 7, 8 and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shubert in view of US Patent 6,002,734 to Steinman

The disclosure of Shubert is described in detail above. Shubert differs from the instantly claimed invention in that there is no disclosure of an identification means, in particular a bar code, on the container containing the flux and ore sample.



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Steinman teaches a method for gold assay in ore samples. At col. 4, lines 13-23, Steinman teaches that where an ore sample is placed into a container, it is preferably given an identifying mark such as a bar code so that it can be tracked through the assay system, as recited in claims 7, 8, 13 and 15. Bar codes are conventionally read with bar code scanners, as recited in claim 14.

It would have been obvious to one of ordinary skill in the art to use a bar code on the ore samples of Shubert because such will allow the user to keep track of information such as the source of the samples and the assays being conducted on the samples.


Therefore, for the reasons set forth above, Applicants' claimed invention is deemed to be obvious, within the meaning of 35 USC 103 in view of the teachings of Shubert and Steinman.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LaToya I. Cross whose telephone number is 703-305-7360. The examiner can normally be reached on Monday-Friday 8:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill A. Warden can be reached on 703-308-4037. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

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June 22, 2003

  
Jill Warden  
Supervisory Patent Examiner  
Technology Center 1700